RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number:	
Source:	PLT
Date Processed by STIC:	05/12/2006
	, ,

ENTERED



PCT

RAW SEQUENCE LISTING DATE: 05/12/2006
PATENT APPLICATION: US/10/530,556 TIME: 08:55:29

```
4 <110> APPLICANT: Genencor International, Inc.
     5
             Dunn-Coleman, Nigel
              Ward, Michael
      6
      8 <120> TITLE OF INVENTION: BGL6 Beta-Glucosidase and Nucleic Acids
              Encoding the Same
     11 <130> FILE REFERENCE: GC781-2-PCT
C--> 13 <140> CURRENT APPLICATION NUMBER: US/10/530,556
C--> 14 <141> CURRENT FILING DATE: 2005-04-07
     16 <150> PRIOR APPLICATION NUMBER: US 60/424,784
     17 <151> PRIOR FILING DATE: 2002-11-07
     19 <160> NUMBER OF SEQ ID NOS: 4
     21 <170> SOFTWARE: FastSEQ for Windows Version 4.0
     23 <210> SEQ ID NO: 1
     24 <211> LENGTH: 2812
     25 <212> TYPE: DNA
     26 <213> ORGANISM: Trichoderma reesei
     28 <400> SEQUENCE: 1
     29 gateacacce eteceaceet tetettttea aggittgteee etteteecac ggetttatgt
                                                                                60
     30 acttcccact ctmtaattcg ctctttccat tccaagccaa gcaacatctg tgagcagctc
                                                                               120
     31 atcettecca atatgggega atggeaggag cagatgatgg gttttgaegt ggaggatgtt
                                                                               180
     32 ctgtctcagc tgagccaaaa tgagaagatt gctctcttgt ccggcattga tttctggcat
                                                                               240
     33 acttatecea taccaaagta caaegteeet teagteegee taaeggaegg teetaaegge
                                                                               300
     34 atacgaggca caaagttttt tgctggcatt cctgctgcct gcctgccatg tgggacggcc
                                                                               360
     35 ctggcctcta cctgggataa gcagctgctg aagaaggctg ggaagctgct cggtgatgag
                                                                               420
     36 tgcatcgcaa aaggcgccca ctgctggctg ggcccaacaa tcaatactcc ccgatctcct
                                                                               480
     37 ctgggggggc gcggcttcqa gtcattttcq qaaqatccqt acctqtccqq catccttqct
                                                                               540
     38 gcatctatga ttctcggctg tgaaagcaca ggtgtcatct ctgccgtcaa acactttgtc
                                                                               600
     39 gccaacgacc aggagcacga gcggcgagcg gtcgactgtc tcatcaccca gcgggctctc
                                                                               660
     40 cgggaggtct atctgcgacc cttccagatc gtagcccgag atgcaaggcc cggcgcattg
                                                                               720
     41 atgacateet acaacaaggt caatggcaag caegtegetg acagegeega gtteetteag
                                                                               780
     42 ggcattetee ggaetgagtg gaattgggat ceteteattg teagegaetg gtaeggeaee
                                                                               840
     43 tacaccacta ttgatgccat caaagccggc cttgatctcg agatgccggg cgtttcacga
                                                                               900
     44 tategeggea aatacatega gtetgetetg eaggeeegtt tgetgaagea gteeactate
                                                                               960
     45 gatgagegeg etegeegegt geteaggtte geceagaagg eeageeatet eaaggtetee
                                                                              1020
     46 gaggtagagc aaggccgtga cttcccagag gatcgcgtcc tcaaccgtca gatctgcggc
                                                                              1080
     47 agcagcattg tectaetgaa gaatgagaae tecatettae eteteeecaa gteegteaag
                                                                              1140
     48 aaggtcgccc ttgttggatc ccacgtgcgt ctaccggcta tctcgggagg aggcagcgcc
                                                                              1200
     49 tetettgtee ettaetatge catateteta taegatgeeg tetetgaggt aetageeggt
                                                                              1260
     50 gccacgatca cgcacgaggt cggtgcctat gcccaccaaa tgctgcccgt catcgacgca
                                                                              1320
     51 atgatcagca acgccgtaat ccacttctac aacgacccca tcgatgtcaa agacagaaag
                                                                              1380
     52 ctccttggca gtgagaacgt atcgtcgaca tcgttccagc tcatqqatta caacaacatc
                                                                              1440
     53 ccaacgetca acaaggecat gttetggggt actetegtgg gegagtttat cectacegee
                                                                              1500
     54 acgggaattt gggaatttgg cctcagtgtc tttggcactg ccgaccttta tattqataat
                                                                              1560
```

RAW SEQUENCE LISTING DATE: 05/12/2006 PATENT APPLICATION: US/10/530,556 TIME: 08:55:29

```
55 gagctcgtga ttgaaaatac aacacatcag acgcgtggta ccgccttttt cggaaaggga
                                                                       1620
56 acgacggaaa aagtegetac caggaggatg gtggeeggea geacetacaa getgegtete
                                                                       1680
57 gagtttgggt ctgccaacac gaccaagatg gagacgaccg gtgttgtcaa ctttqqcqqc
                                                                       1740
58 ggtgccgtac acctgggtgc ctgtctcaag gtcgacccac aggagatgat tgcgcgggcc
                                                                       1800
59 gtcaaggccg cagccgatgc cgactacacc atcatctgca cgggactcag cggcgagtgg
                                                                       1860
60 gagtetgagg gttttgaceg geeteacatg gacetgeece etggtgtgga caccatgate
                                                                       1920
61 tegeaagtte ttgaegeege teecaatget gtagtegtea accagteagg caccecagtg
                                                                       1980
62 acaatgaget gggeteataa ageaaaggee attgtgeagg ettggtatgg tggtaaegag
                                                                       2040
63 acaggccacg gaatctccga tgtgctcttt ggcaacgtca acccgtcggg gaaactctcc
                                                                       2100
64 ctatcgtggc cagtcgatgt gaagcacaac ccagcatatc tcaactacgc cagcgttggt
                                                                       2160
65 ggacgggtct tgtatggcga ggatgtttac gttggctaca agttctacga caaaacggag
                                                                       2220
66 agggaggttc tgtttccttt tgggcatggc ctgtcttacg ctaccttcaa gctcccagat
                                                                       2280
67 totaccgtga ggacggtccc cgaaaccttc cacccggacc agcccacagt agccattqtc
                                                                       2340
68 aagatcaaga acacgagcag tgtcccqqqc qcccaqqtcc tqcaqctata catttcqqcc
                                                                       2400
69 ccaaactcgc ctacacatcg cccggtcaag gagctgcacg gattcgaaaa ggtqtatctt
                                                                       2460
70 gaagetggeg aggagaagga ggtacaaata cccattgacc agtacgctac tagettetgg
                                                                       2520
71 gacgagattg agagcatgtg gaagagcgag aggggcattt atgatgtgct tgtaggattc
                                                                       2580
72 tegagteagg aaateteggg caaggggaag etgattgtge etgaaaegeg attetggatg
                                                                       2640
73 gggctgtaga ttcaacacgt gagcaaaagc gattgcggaa agtaccagaa aagccaaggg
                                                                       2700
74 agtcaaagga tgggaacttg tgtcaataga agatatgcat gatgggcatt tgggatggtq
                                                                       2760
2812
77 <210> SEQ ID NO: 2
78 <211> LENGTH: 838
79 <212> TYPE: PRT
80 <213> ORGANISM: Trichoderma reesei
82 <400> SEQUENCE: 2
83 Met Gly Glu Trp Gln Glu Gln Met Met Gly Phe Asp Val Glu Asp Val
                                      10
                   5
85 Leu Ser Gln Leu Ser Gln Asn Glu Lys Ile Ala Leu Leu Ser Gly Ile
86
               20
                                  25
87 Asp Phe Trp His Thr Tyr Pro Ile Pro Lys Tyr Asn Val Pro Ser Val
89 Arg Leu Thr Asp Gly Pro Asn Gly Ile Arg Gly Thr Lys Phe Phe Ala
90
91 Gly Ile Pro Ala Ala Cys Leu Pro Cys Gly Thr Ala Leu Ala Ser Thr
92 65
                      70
                                           75
93 Trp Asp Lys Gln Leu Leu Lys Lys Ala Gly Lys Leu Leu Gly Asp Glu
94
95 Cys Ile Ala Lys Gly Ala His Cys Trp Leu Gly Pro Thr Ile Asn Thr
                                  105
97 Pro Arg Ser Pro Leu Gly Gly Arg Gly Phe Glu Ser Phe Ser Glu Asp
99 Pro Tyr Leu Ser Gly Ile Leu Ala Ala Ser Met Ile Leu Gly Cys Glu
       130
                           135
                                               140
101 Ser Thr Gly Val Ile Ser Ala Val Lys His Phe Val Ala Asn Asp Gln
102 145
                                           155
103 Glu His Glu Arg Arg Ala Val Asp Cys Leu Ile Thr Gln Arg Ala Leu
                   165
                                       170
105 Arg Glu Val Tyr Leu Arg Pro Phe Gln Ile Val Ala Arg Asp Ala Arg
```

RAW SEQUENCE LISTING DATE: 05/12/2006
PATENT APPLICATION: US/10/530,556 TIME: 08:55:29

100				100												
106	D	01	23-	180	10.4	ml		-	185	_		_	~ 3	190		
	Pro	GIY		Leu	Met	Thr	Ser		Asn	Lys	Val	Asn		Lys	Hıs	Val
108		_	195				_	200					205			
	Ala		Ser	Ala	Glu	Phe	Leu	Gln	Gly	Ile	Leu		Thr	Glu	Trp	Asn
110		210					215					220				
111	Trp	Asp	Pro	Leu	Ile	Val	Ser	Asp	Trp	Tyr	Gly	Thr	Tyr	Thr	Thr	Ile
	225					230					235					240
113	Asp	Ala	Ile	Lys	Ala	Gly	Leu	Asp	Leu	Glu	Met	Pro	Gly	Val	Ser	Arg
114					245					250					255	
115	Tyr	Arg	Gly	Lys	Tyr	Ile	Glu	Ser	Ala	Leu	Gln	Ala	Arg	Leu	Leu	Lys
116				260					265					270		
117	Gln	Ser	Thr	Ile	Asp	Glu	Arg	Ala	Arg	Arg	Val	Leu	Arg	Phe	Ala	Gln
118			275					280					285			
119	Lys	Ala	Ser	His	Leu	Lys	Val	Ser	Glu	Val	Glu	Gln	Gly	Arg	Asp	Phe
120		290					295					300	_	_	_	
121	Pro	Glu	Asp	Arg	Val	Leu	Asn	Arg	Gln	Ile	Cys	Gly	Ser	Ser	Ile	Val
	305					310		•			315	-				320
123	Leu	Leu	Lys	Asn	Glu	Asn	Ser	Ile	Leu	Pro	Leu	Pro	Lys	Ser	۷al	Lys
124			-		325					330			-		335	•
125	Lys	Val	Ala	Leu	Val	Gly	Ser	His	Val	Arq	Leu	Pro	Ala	Ile	Ser	Glv
126	•			340		•			345	~				350		2
127	Gly	Gly	Ser	Ala	Ser	Leu	Val	Pro	Tyr	Tvr	Ala	Ile	Ser		Tvr	Asp
128	•	•	355					360	4	4			365		. 2	
129	Ala	Val	Ser	Glu	Val	Leu	Ala		Ala	Thr	Ile	Thr		Glu	Val	Glv
130		370					375	1				380				1
	Ala		Ala	His	Gln	Met	Leu	Pro	Val	Ile	Asp		Met	Ile	Ser	Asn
	385	•				390					395					400
		Val	Ile	His	Phe		Asn	Asp	Pro	Tle		Val	Lvs	Asp	Ara	
134					405	-1-		<u>F</u>		410			-1-		415	-7-
135	Leu	Leu	Glv	Ser		Asn	Val	Ser	Ser		Ser	Phe	Gln	Leu		Asp
136			2	420					425					430		
137	Tvr	Asn	Asn	Ile	Pro	Thr	Leu	Asn		Ala	Met	Phe	Trp		Thr	Len
138	-1-		435					440	-1-				445	017		
	Val	Glv		Phe	Tle	Pro	Thr		Thr	Glv	Tle	Trp		Phe	Glv	T. e 11
140		450					455			1		460			V-1	
	Ser		Phe	Glv	Thr	Δla		Len	Tvr	Tle	Asp		Glu	Len	Val	Ile
	465			- -1		470			-1-		475		OLU	Lou		480
		Asn	Thr	Thr	His		Thr	Ara	Glv	Thr		Phe	Phe	Glv	Lvs	
144					485			5		490					495	0 -7
	Thr	Thr	Glu	Lvs		Ala	Thr	Ara	Ara		Val	Δla	Glv	Ser		Tyr
146				500				5	505					510		- 7 -
	Lvs	Len	Ara		Glu	Phe	Glv	Ser		Asn	Thr	Thr	Lvc		Glu	Thr
148	-1-		515					520					525		014	
	Thr	Glv		Val	Asn	Phe	Glv		Glv	Δla	Val	His		Glv	Δla	Cys
150		530	• • • •	V (4.1		1110	535	JLY	O ± y	an Lu	VUI	540	200	O L y	лта	Cys
	T.e.		Va1	Acn	Pro	Gln		Met	710	Δ 1 ⇒	Δrα		V=1	Laze	Δla	Ala
	545	- 75	• 41	110P	110	550	Ψıu	1.100	116	A1d	555	AId	vaı	цyэ	nia	560
		Acn	αΙລ	Δen	Тъгъ		Tle	Tle	Cvc	Thr		Len	Ser	G1 17	G111	Trp
154	ALU	wah	AIG	voh	565	TIIT	116	116	Cys		GIA	псп	261	GIY		тър
104					202					570					575	

RAW SEQUENCE LISTING DATE: 05/12/2006 PATENT APPLICATION: US/10/530,556 TIME: 08:55:29

```
155 Glu Ser Glu Gly Phe Asp Arg Pro His Met Asp Leu Pro Pro Gly Val
                580
                                    585
157 Asp Thr Met Ile Ser Gln Val Leu Asp Ala Ala Pro Asn Ala Val Val
158
            595
                                600
159 Val Asn Gln Ser Gly Thr Pro Val Thr Met Ser Trp Ala His Lys Ala
160
        610
                            615
                                                 620
161 Lys Ala Ile Val Gln Ala Trp Tyr Gly Gly Asn Glu Thr Gly His Gly
                        630
                                             635
163 Ile Ser Asp Val Leu Phe Gly Asn Val Asn Pro Ser Gly Lys Leu Ser
164
                    645
                                         650
165 Leu Ser Trp Pro Val Asp Val Lys His Asn Pro Ala Tyr Leu Asn Tyr
166
                660
                                    665
167 Ala Ser Val Gly Gly Arg Val Leu Tyr Gly Glu Asp Val Tyr Val Gly
            675
                                680
169 Tyr Lys Phe Tyr Asp Lys Thr Glu Arg Glu Val Leu Phe Pro Phe Gly
                            695
                                                 700
171 His Gly Leu Ser Tyr Ala Thr Phe Lys Leu Pro Asp Ser Thr Val Arg
172 705
                        710
173 Thr Val Pro Glu Thr Phe His Pro Asp Gln Pro Thr Val Ala Ile Val
174
                    725
                                         730
175 Lys Ile Lys Asn Thr Ser Ser Val Pro Gly Ala Gln Val Leu Gln Leu
176
                740
                                     745
177 Tyr Ile Ser Ala Pro Asn Ser Pro Thr His Arg Pro Val Lys Glu Leu
            755
                                760
179 His Gly Phe Glu Lys Val Tyr Leu Glu Ala Gly Glu Glu Lys Glu Val
        770
                            775
181 Gln Ile Pro Ile Asp Gln Tyr Ala Thr Ser Phe Trp Asp Glu Ile Glu
182 785
                        790
                                             795
183 Ser Met Trp Lys Ser Glu Arg Gly Ile Tyr Asp Val Leu Val Gly Phe
184
                    805
185 Ser Ser Gln Glu Ile Ser Gly Lys Gly Lys Leu Ile Val Pro Glu Thr
                820
                                     825
                                                         830
187 Arg Phe Trp Met Gly Leu
188
            835
190 <210> SEQ ID NO: 3
191 <211> LENGTH: 2517
192 <212> TYPE: DNA
193 <213> ORGANISM: Trichoderma reesei
195 <400> SEQUENCE: 3
196 atgggcgaat ggcaggagca gatgatgggt tttgacgtgg aggatgttct gtctcagctg
                                                                             60
197 agccaaaatg agaagattgc tctcttgtcc ggcattgatt tctggcatac ttatcccata
                                                                            120
198 ccaaagtaca acgtcccttc agtccgccta acggacggtc ctaacggcat acgaggcaca
                                                                            180
199 aagttttttg ctggcattcc tgctgcctgc ctgccatgtg ggacggccct ggcctctacc
                                                                            240
200 tgggataagc agctgctgaa gaaggctggg aagctgctcg gtgatgagtg catcgcaaaa
                                                                            300
201 ggcgcccact gctggctggg cccaacaatc aatactcccc gatctcctct qqqqqqqcqc
                                                                            360
202 ggcttcgagt cattttcgga agatccgtac ctgtccggca tccttgctgc atctatgatt
                                                                            420
203 ctcggctgtg aaagcacagg tgtcatctct gccgtcaaac actttgtcgc caacgaccag
                                                                            480
204 gagcacgagc ggcgagcggt cgactgtctc atcacccagc gggctctccg ggaggtctat
                                                                            540
205 ctgcgaccct tccagatcgt agcccgagat gcaaggcccg gcgcattgat gacatcctac
                                                                            600
```

RAW SEQUENCE LISTING DATE: 05/12/2006
PATENT APPLICATION: US/10/530,556 TIME: 08:55:29

```
206 aacaaggtca atggcaagca cgtcgctgac agcqccqaqt tccttcaqqq cattctccqq
                                                                           660
207 actgagtgga attgggatcc tctcattgtc agcgactggt acggcaccta caccactatt
                                                                           720
208 gatgccatca aagccggcct tgatctcgag atgccgggcg tttcacgata tcgcggcaaa
                                                                           780
209 tacatcgagt ctgctctgca ggcccgtttg ctgaagcagt ccactatcga tgaqcgcqct
                                                                           840
210 cgccgcgtgc tcaggttcgc ccagaaggcc agccatctca aggtctccga ggtagagcaa
                                                                           900
211 ggccgtgact tcccagagga tcgcgtcctc aaccgtcaga tctgcggcag cagcattgtc
                                                                           960
212 ctactgaaga atgagaactc catcttacct ctccccaagt ccgtcaagaa qqtcqccctt
                                                                          1020
213 gttggatccc acgtgcgtct accggctatc tcgggaggag gcagcgcctc tcttgtccct
                                                                          1080
214 tactatgcca tatctctata cgatgccgtc tctgaggtac tagccggtgc cacgatcacg
                                                                          1140
215 cacgaggtcg gtgcctatgc ccaccaaatg ctgcccgtca tcgacgcaat gatcagcaac
                                                                          1200
216 gccgtaatcc acttctacaa cgaccccatc gatgtcaaag acagaaagct ccttgqcaqt
                                                                          1260
217 gagaacgtat cgtcgacatc gttccagctc atggattaca acaacatccc aacgctcaac
                                                                          1320
218 aaggccatgt tetggggtac tetegtgggc gagtttatec etacegecae gggaatttgg
                                                                          1380
219 gaatttggcc tcagtgtctt tggcactgcc gacctttata ttgataatga gctcgtgatt
                                                                          1440
220 gaaaatacaa cacatcagac gcgtggtacc gcctttttcg gaaagggaac gacqqaaaaa
                                                                          1500
221 gtcgctacca ggaggatggt ggccggcagc acctacaagc tgcgtctcga gtttgggtct
                                                                          1560
222 gccaacacga ccaagatgga gacgaccggt gttgtcaact ttggcggcgg tgccgtacac
                                                                          1620
223 ctgggtgcct gtctcaaggt cgacccacag gagatgattg cgcgggccgt caagqccqca
                                                                          1680
224 geogatgeeg actacaccat catetgeacg ggaeteageg gegagtggga gtetgagggt
                                                                          1740
225 tttgaccggc ctcacatgga cctgcccct ggtgtggaca ccatgatctc gcaagttctt
                                                                          1800
226 gacgccgctc ccaatgctgt agtcgtcaac cagtcaggca ccccagtgac aatqagctqq
                                                                          1860
227 geteataaag caaaggeeat tgtgeagget tggtatggtg gtaacgagae aggeeacqqa
                                                                          1920
228 atctccgatg tgctctttgg caacgtcaac ccgtcgggga aactctccct atcgtggcca
                                                                          1980
229 gtcgatgtga agcacaaccc agcatatctc aactacgcca gcgttggtgg acgggtcttg
                                                                          2040
230 tatggcgagg atgtttacgt tggctacaag ttctacgaca aaacggagag ggaggttctg
                                                                          2100
231 tttccttttg ggcatggcct gtcttacgct accttcaagc tcccagattc taccgtgagg
                                                                          2160
232 acggtccccg aaaccttcca cccggaccag cccacagtag ccattgtcaa gatcaagaac
                                                                          2220
233 acgagcagtg tecegggege ceaggteetg cagetataca ttteggeece aaactegeet
                                                                          2280
234 acacategee eggteaagga getgeaegga ttegaaaagg tgtatettga agetggegag
                                                                          2340
235 gagaaggagg tacaaatacc cattgaccag tacgctacta gcttctggga cgagattgag
                                                                          2400
236 agcatgtgga agagcgagag gggcatttat gatgtgcttg taggattctc gagtcaggaa
                                                                          2460
237 atctcgggca aggggaaget gattgtgcct gaaacgcgat tctggatggg gctgtag
                                                                          2517
239 <210> SEQ ID NO: 4
240 <211> LENGTH: 831
241 <212> TYPE: PRT
242 <213> ORGANISM: Trichoderma reesei
244 <400> SEQUENCE: 4
245 Met Met Gly Phe Asp Val Glu Asp Val Leu Ser Gln Leu Ser Gln Asn
                                        10
247 Glu Lys Ile Ala Leu Leu Ser Gly Ile Asp Phe Trp His Thr Tyr Pro
248
                20
                                    25
249 Ile Pro Lys Tyr Asn Val Pro Ser Val Arg Leu Thr Asp Gly Pro Asn
                                40
251 Gly Ile Arg Gly Thr Lys Phe Phe Ala Gly Ile Pro Ala Ala Cys Leu
252
        50
253 Pro Cys Gly Thr Ala Leu Ala Ser Thr Trp Asp Lys Gln Leu Leu Lys
                        70
                                            75
255 Lys Ala Gly Lys Leu Leu Gly Asp Glu Cys Ile Ala Lys Gly Ala His
256
```

VERIFICATION SUMMARY

DATE: 05/12/2006

PATENT APPLICATION: US/10/530,556

TIME: 08:55:30

Input Set : A:\781_2_PCT_SEQLIST.TXT Output Set: N:\CRF4\05122006\J530556.raw

L:13 M:270 C: Current Application Number differs, Replaced Current Application Number L:14 M:271 C: Current Filing Date differs, Replaced Current Filing Date